

REMARKS

I. Introduction

In view of the above amendments and the following remarks, reconsideration of the rejections contained in the Office Action of August 4, 2008 is respectfully requested.

By this amendment claims 9-16 have been canceled and claims 17-36 have been added. Claims 17-36 are now pending in the application. No new matter has been added by these amendments.

The entire specification has been reviewed and revised. Due to the number of revisions, the amendments to the specification have been incorporated into the attached substitute specification. For the Examiner's benefit, a marked-up copy of the specification and abstract indicating the changes made thereto is also enclosed. No new matter has been added by these revisions. Entry of the substitute specification is thus respectfully requested.

II. 35 U.S.C. § 112

Claims 9-16 stand rejected under 35 U.S.C. § 112 for being indefinite. With respect to the term "online," amended claims 17-36 do not use this term. By "online," Applicants were referring to the system being in operation rather than a capability of accessing the internet; claims 17-36 now recite that functionality in sufficiently clear terms. Accordingly, withdrawal of this rejection is respectfully requested.

With respect to the antecedent basis issues of claim 12, this claim has now been canceled. Antecedent basis being provided in the amended claims, withdrawal of this rejection is respectfully requested.

III. Prior Art Rejections

Currently, claims 9 and 11-16 have been rejected under 35 U.S.C. § 102(e) and claim 10 has been rejected under 35 U.S.C. § 103 over Rossi et al. (US 6,701,725). These rejections are believed moot in view of the cancelling of claim 9-16.

New independent claims 17 and 27 are patentable over Rossi et al. (US 6,701,725) for the following reasons. Claims 17 and 27 require an apparatus and corresponding method, respectively, which determine an optimum high-side pressure in a compression refrigeration system during the operation of that system by perturbation of the high-side pressure, and thereafter operate the system at the optimum high-side pressure. Claims 17 and 27 also require that the high-side pressure is supercritical. These requirements of claims 17 and 27 are not disclosed nor rendered obvious by Rossi et al.

Rossi et al. disclose a process of estimating efficiency and capacity in a compression refrigeration cycle by measuring temperature and pressure. (column 5, line 37- column 6, line 8.) Rossi et al. do not determine an optimum pressure, as required by claims 17 and 27. Rossi et al. do not perform a perturbation of high-side pressure, as required by claims 17 and 27. Rossi et al. do not use an optimum high-side pressure that has been determined, as required by claims 17 and 27. Restated, Rossi et al. directly measure actual pressure, in addition to other variables, to determine efficiency; the present invention determines an optimum pressure and subsequently operates at that optimum pressure in order to maximize efficiency. Moreover, the disclosure of Rossi et al. does not involve systems operating at supercritical pressures and because the calculations of Rossi et al. involve “common refrigerants...[such as] R-22, R-134A, and R-410A” (column 3, line 36-42) which operate below the critical point, it appears that any system which would be subject to the measurements of Rossi et al. *would not even be capable of operating at supercritical pressures.*

Accordingly, claims 17 and 27 are not anticipated or rendered obvious by Rossi et al. Claims 18-26 depend directly or indirectly from claim 17, and are thus allowable for at least the reasons set forth above in support of claim 17. Claims 28-36 depend directly or indirectly from claim 27, and are thus allowable for at least the reasons set forth above in support of claim 27.

In view of the foregoing amendments and remarks, inasmuch as all of the outstanding issues have been addressed, Applicants respectfully submit that the present application is in complete condition for issuance of a formal Notice of Allowance, and action to such effect is earnestly solicited.

Should any issues remain after consideration of the within response, however, the Examiner is invited to telephone the undersigned at his convenience. If any fee beyond that submitted herewith, or extension of time is required to obtain entry of this Amendment, the undersigned hereby petitions the Commissioner to grant any necessary time extension and authorizes charging Deposit Account 23-0975 for any such fee not submitted herewith.

Respectfully submitted,

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